Service Manual

PDP(PLASMA DISPLAY PANEL)TV

Panel Grade; HD Ready

Buyer Model No.: DT-42D2

Manufacturer Model No.: DPB-4260

DIGITALDEVICE, INC

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1-1. Description

The PDP42V7####/ PDP42X3#### is a 42-inch 16:9 color plasma display module.

This is the display device which offers vivid colors with adopting AC plasma technology by LG Electronics Inc.

1-2. Features

Smart P-CUBE Technology offers optimized way to make balance between peak power consumption and peak brightness image display with lively picture quality.

1-3. STRUCTURE AND PRINCIPLE OPERATION OF PLASMA DISPLAY

In a Plasma Display TV, Row and Column electrodes are placed between two glass substrates. A rare gas is then filled between each substrate. When a high voltage is applied to these electrodes, the gas is activated resulting in the radiation of ultraviolet light, similar to the operation in fluorescent lamps. These ultraviolet rays then activate phosphor that has been coated on the inside of the glass substrate, and visible light is emitted from the panel.

1-4. General Specification

1-4-1. Specification (LG 42” HD PANEL)

Power	Voltage	AC100V~240V, 50/60Hz		Display Mode	Input Signal	TV, Video, S-Video, SCART(Video/ S-Video/ RGB), Component, Analog RGB, HDMI(Digital RGB)
	Consumption	< 410W (Typical Full White)			Video System	NTSC, PAL, SECAM
Display Panel	Screen Size	920 mm (H) × 518 mm (V)		Input/Output	RF	RF IN (NTSC F-TYPE, PAL DIN-TYPE)
	Number of Pixels	1024 (Horizontal) × 768 (Vertical)			Input	Analog RGB(P), HDMI(DVI(P)) / RGB(S)
	Aspect Ratio	16:9				AV1[SCART-VIDEO(P), RGB(P) / L,R(S)]
	Pixel Pitch	900um (H) x 676um (V)				AV2[SCART-VIDEO(P), S-VIDEO(P) / L,R(S)]
	Color Arrangement	RGB vertical stripes				AV3[V, L,R] , S-VIDEO(P)
	Gradations	1024 steps for each RGB				Component [Y, Pb, Pr(S) / L, R(S)]
	Brightness	1000 cd/m^2			Output	Monitor Out (V, L, R)/ SCART(V, L, R)
	Contrast Ratio	5000 :1				Speaker Out (L, R) (Option : Built-in speaker)
	Displayable Colors	1,070,000,000 Colors		Weight	Without Stand	37 Kg
	Viewing Angle	Over 160 degrees		Dimensions	Without Stand	1113 mm(W)×744mm(H) ×61.2 mm (D)

1-4-2. I/O Description

1-4-2-1. Front Panel Control

- Standby power ON/OFF Button.
- Channel UP Button.
- Channel DOWN Button.
- Volume UP Button.
- Volume DOWN Button.
- AV Button.
- Remote Controls Sensor (IR)
- Operation Indicator (LED)

1-4-2-2. Rear Cabinet I/O's

- AC Power Input
- RF(TV) connector for antenna Input
- S-VIDEO Input(ATSC option)
- Composite Video RCA Input(ATSC option)
- Line Level Audio RCA Input(ATSC option)
- SCART1/2 Input/Output(PAL/SECAM option)
- Component Video Input
- Component Line Level Audio Input
- RGB D-sub Connector Input
- RGB Audio Input
- HDMI (DVI) Input
- Software Upgrade port
- Speaker Output : 2CH (4210~70 model option)
- Built-in Speaker S/W (4210~70 model option

1-5. Operation Environmental Conditions

Temperature	0 to 40 °C
Humidity	20 to 80% RH (without condensation)
Atmospheric pressure	800 to 1100 hPa

1-6. Storage Environmental Conditions

Temperature	-20 to 60 °C
Humidity	10 to 90% RH (without condensation)
Atmospheric pressure	700 to 1100 hPa

1-7. Mechanical Test Conditions

Vibration (operating) (Mounted in TV set)	4.9m/s^2 (0.5 G), 10 to 55 Hz(Sweep Time : 2 Min), X / Y / Z directions, 10 minutes each
Vibration (non-operating) (5EA Packed State) Drop	4.9m/s^2 (0.5 G), 10 to 55 Hz(Sweep Time : 2 Min), Y directions, 60 minutes each

1-8. Life Expectancy

The anticipated life-time is estimated more than 60,000 hours of continuous operations.

※ Average life time is the time when the brightness level becomes half of its initial value.

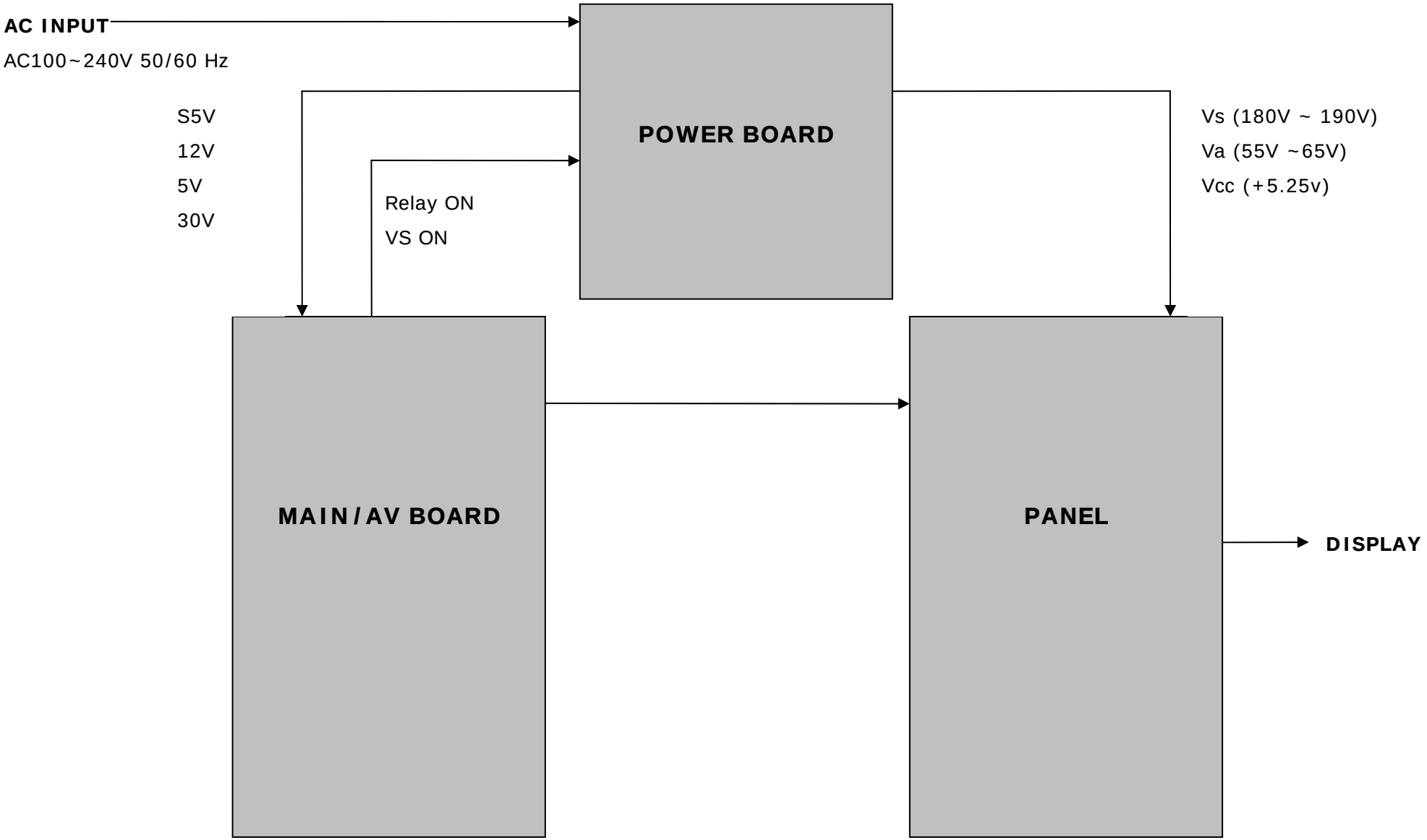
2. Block Diagram

2-1. Basic Block Diagram

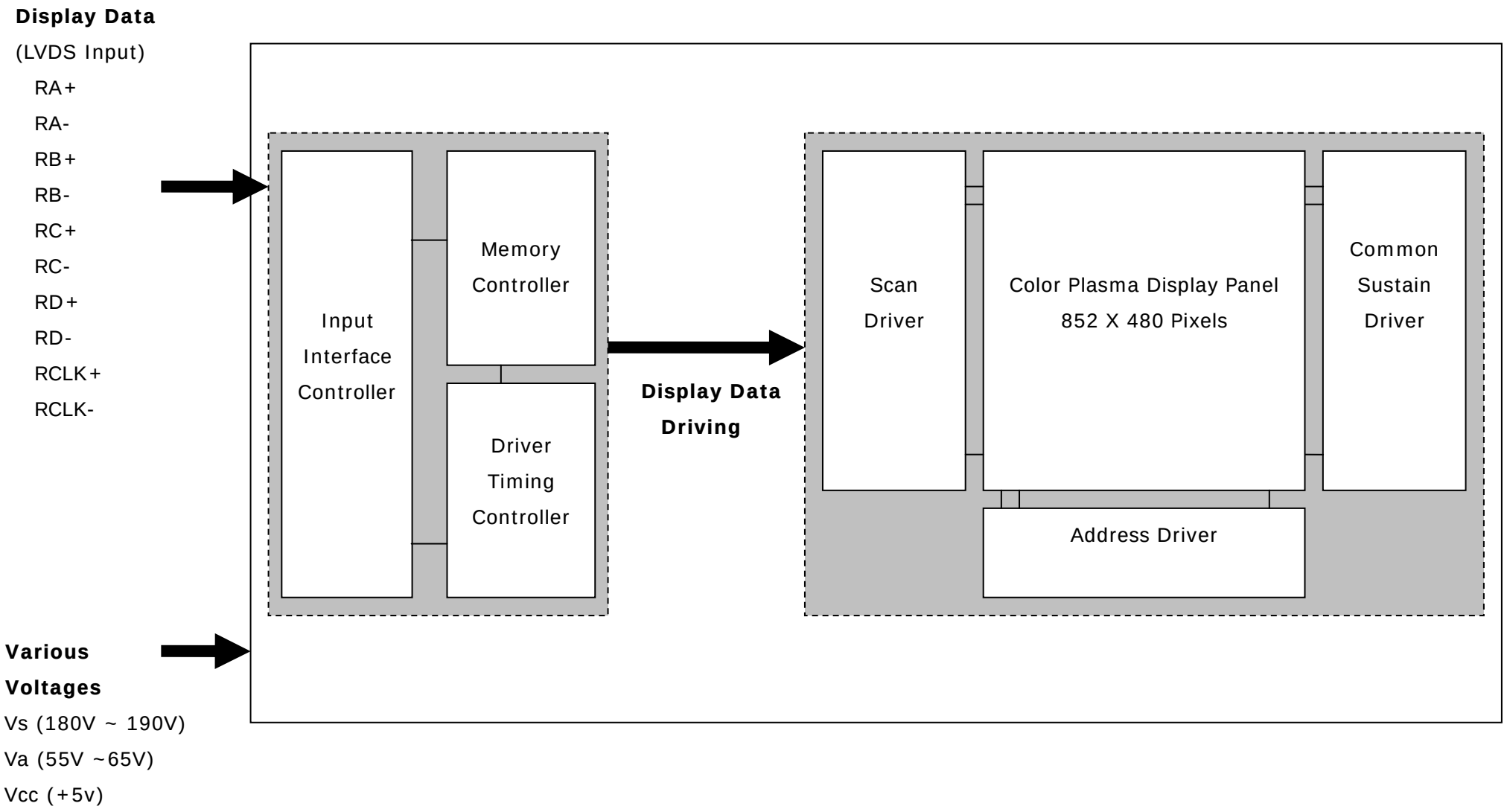
2-2. Panel Block Diagram

2-3. MAIN/AV Board Block Diagram

2-1. Basic Block Diagram



2-2. Panel Block Diagram



3. Assembling

3-1. Assembly Diagram

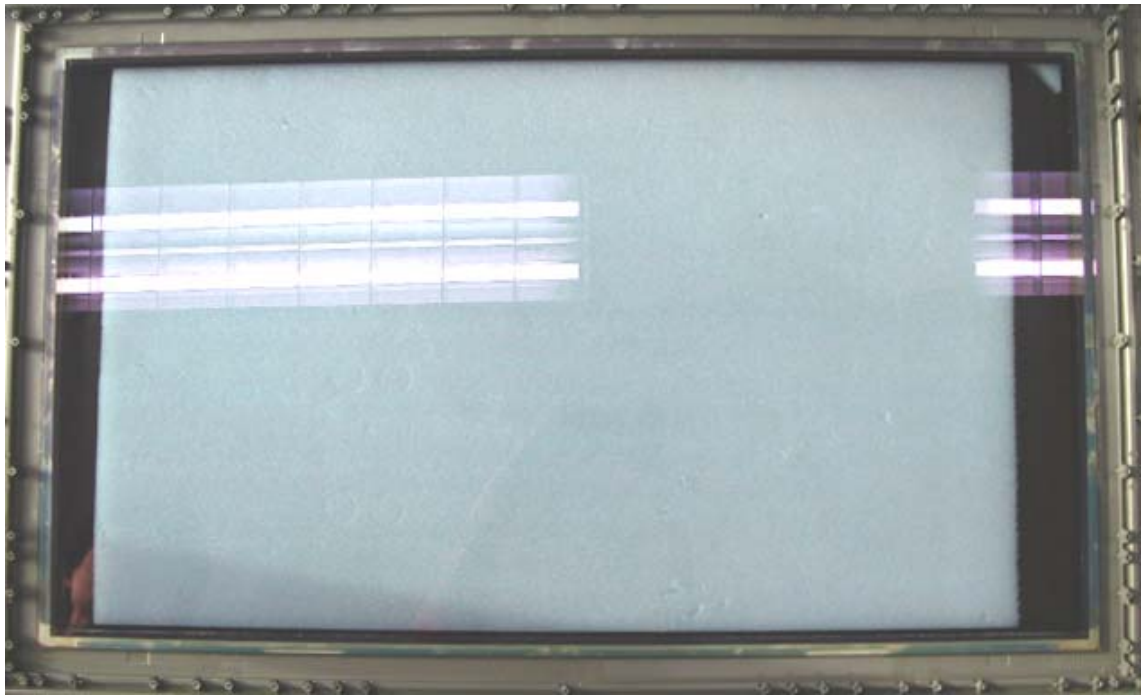
3-1-1. DPB-4260(Front Assembly)

3-2. Part Name

3-2-1. Screw Part Name

3-2-2. Cable List

3-1-1. DPB-4260

3-1-1-1. Assemblage of Filter Optical Put down slowly the filter optical to front	Step1
	

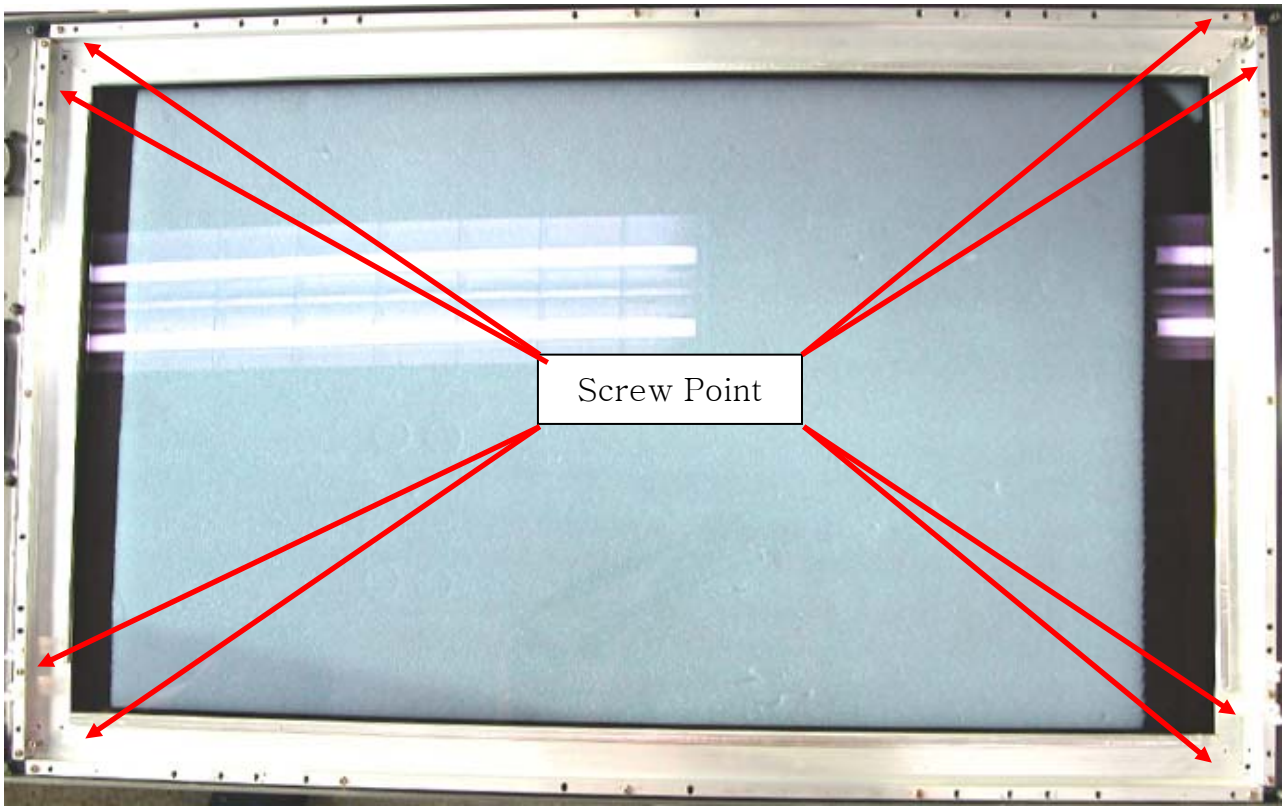
3-1-1-2. Assemblage Front Retainer

There's are 4 retainer

(Left, Right, Top, Bottom)

- Use the screw No.5

Step1



3-1-1-3. Assemblage of Left/Right Speaker Unit

Step1

Assemblage of Left Speaker Unit

- Use the screw No.13

* speaker terminal is Left position

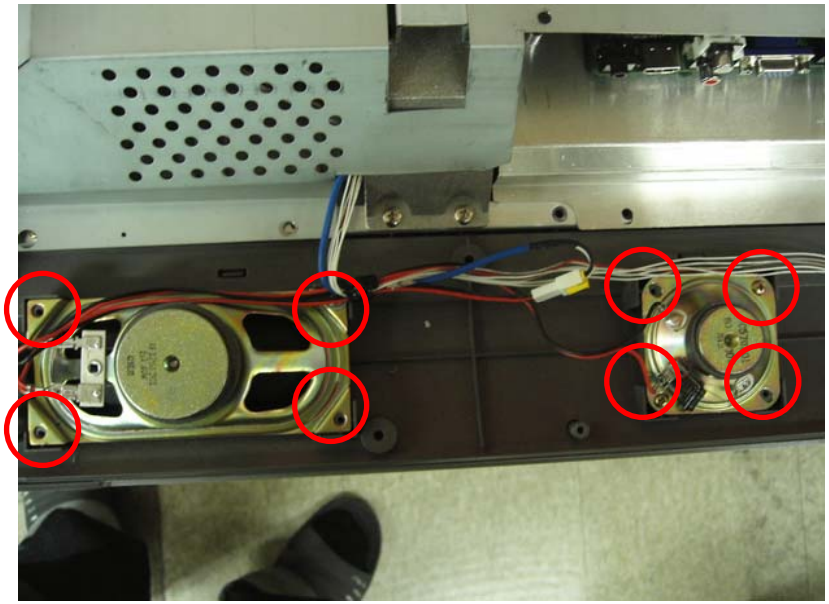
Step2

Assemblage of Right Speaker Unit

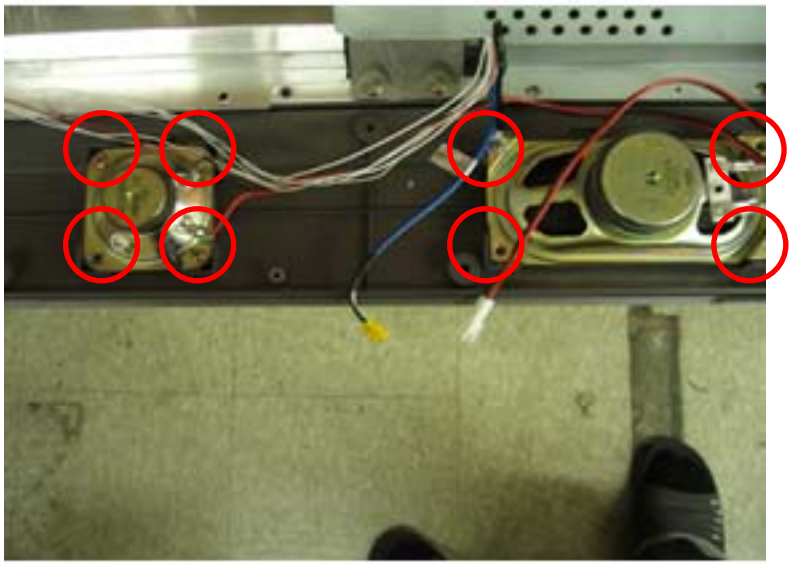
- Use the screw No.13

* speaker terminal is Right position

Step1



Step2



3-1-1-4. Assemblage of LED, IR

Step 1

Assemble Window deco

- Use the screw No.5

Step 2

Assemble Front Deco at Front

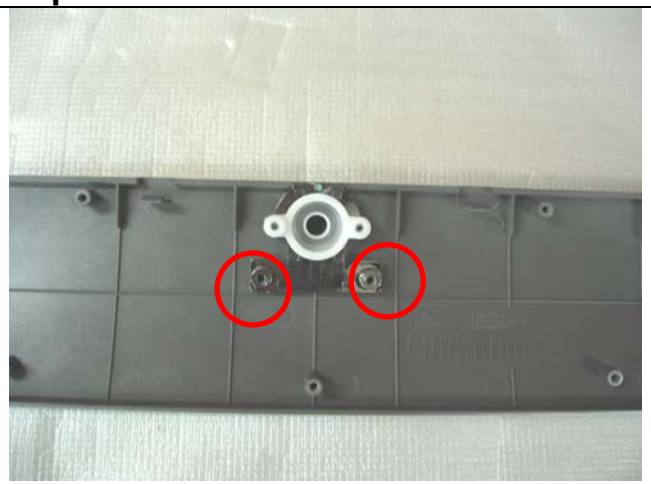
- Use the screw No.15

Step 3

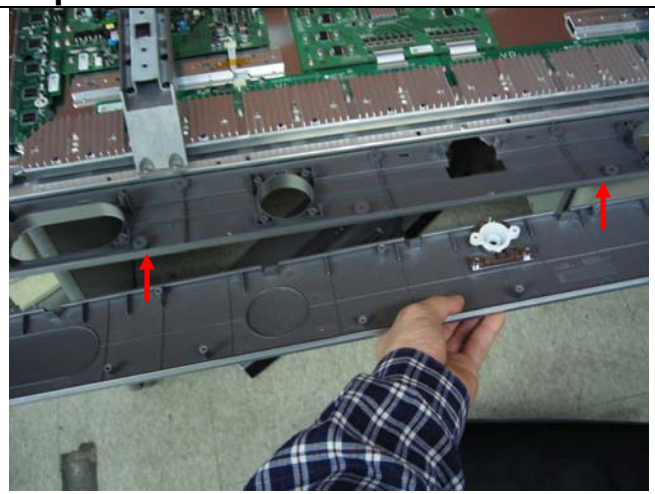
Assemble LED, IR Board

- Use the screw No.14

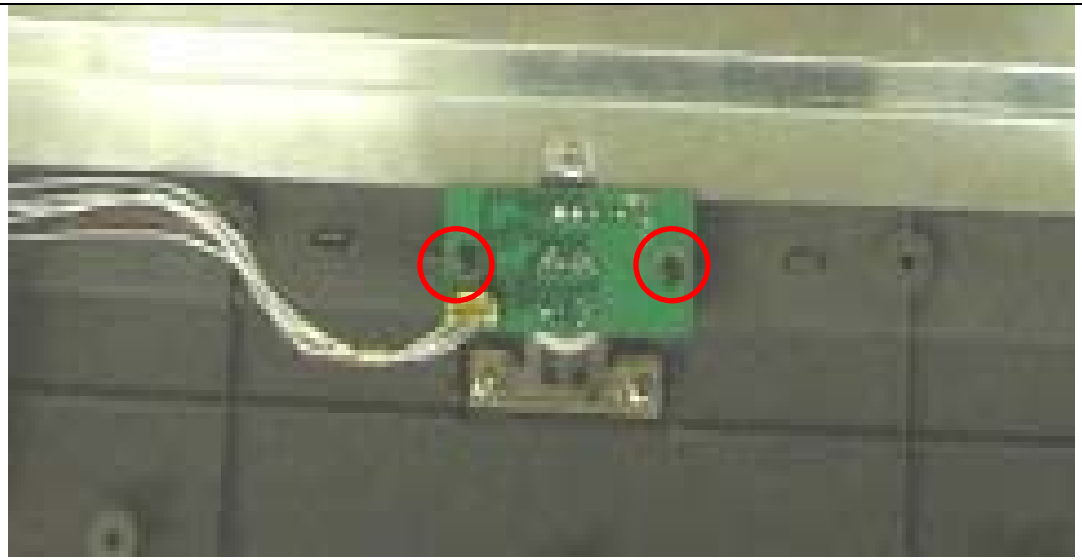
Step 1



Step2



Step3



3-1-2-9. Locating the Mount bracket and Inlet

Step 1

1. Locating Panel

- When you locate the panel, there are 2 guiding holes

2. Locating & Fixing Mount bracket

- **Use the screw No. 12**

  There are 8 Screw Point

3. Locating & fixing Stand bracket

- **Use the screw No. 3**

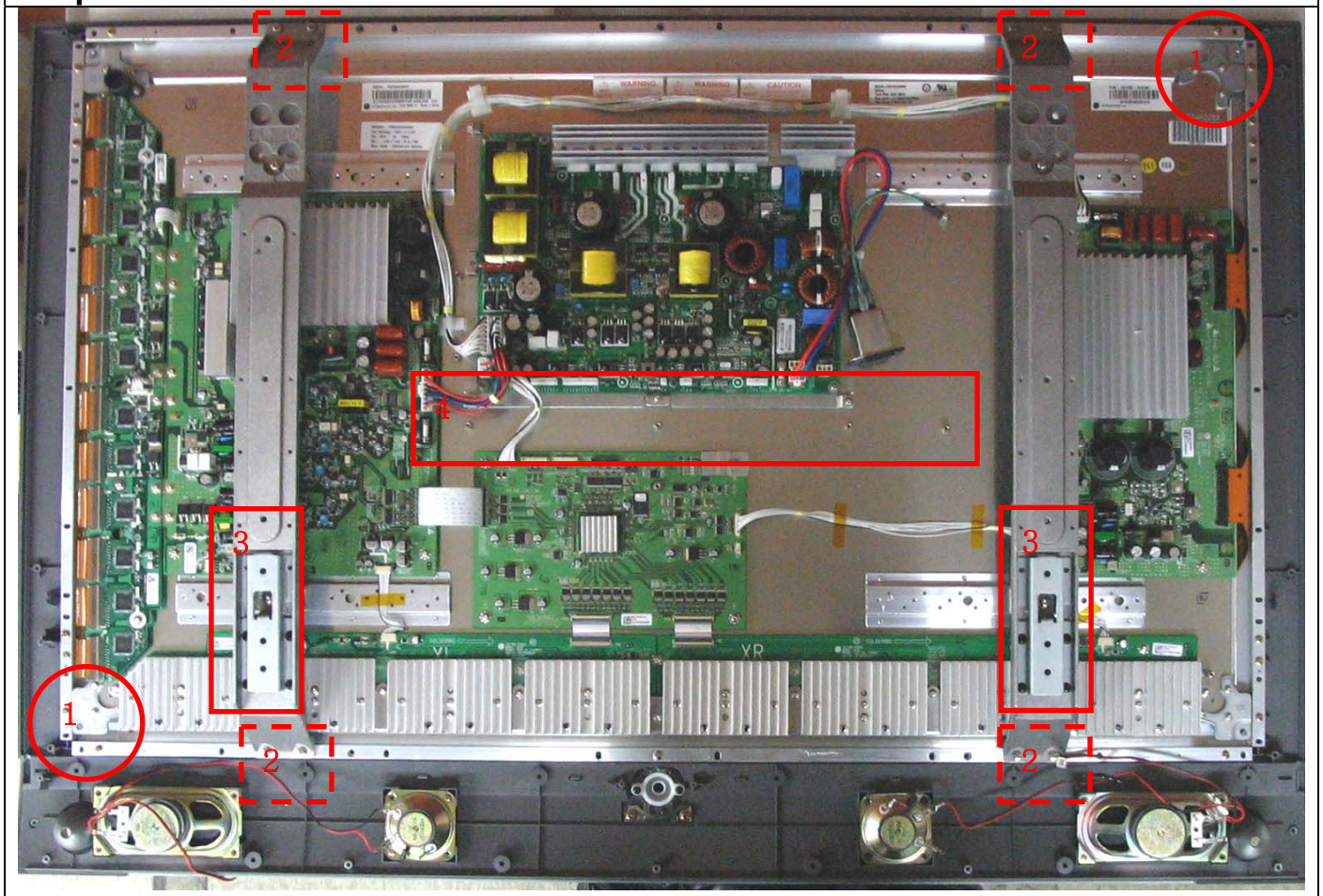
  There are 8 Screw Point

4. Locating & fixing Hexa Nut for Main shield

- **Use the Hexa nut No. 11**

  There are using 3 hexa nut

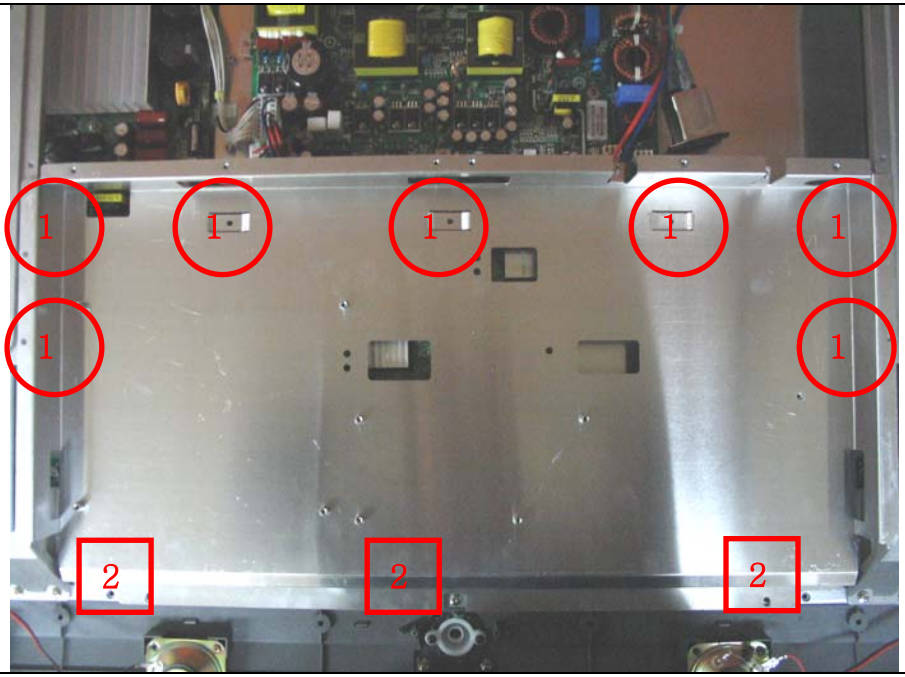
Step 1



3-1-2-10. Fixing the shied

- Locate and fix the shield.
  1. Use the Screw No.4
  2. Use the Screw No.12

Step 1

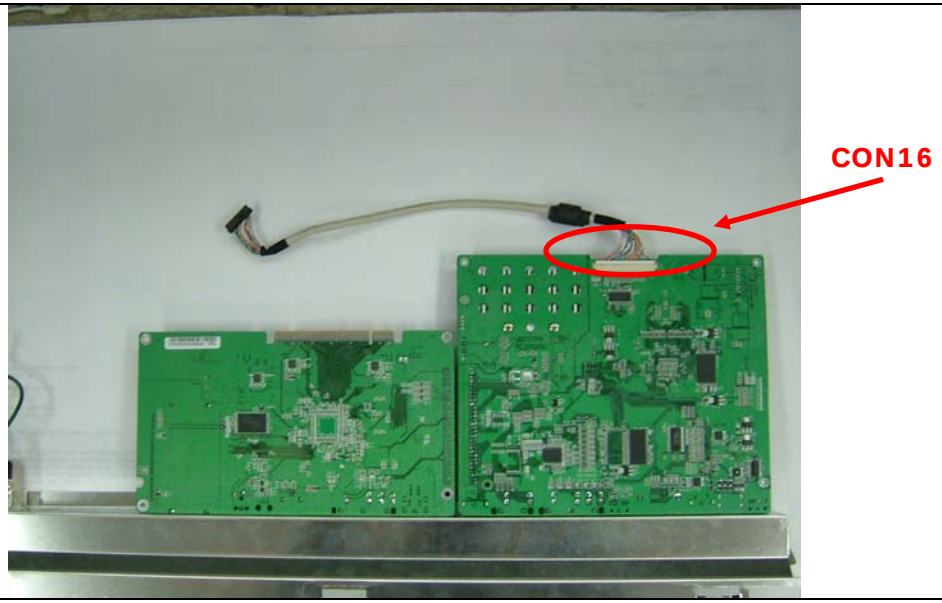


3-1-2-11. Fixing the main board and Connecting the LVDS cable.

Step 1

- Connect the LVDS cable to the main board.
  * Loc. No. CON16
    (There is a CON16 on the back of the main board.)
  * LVDS cable Part Name : DD42CO31301

Step 1



< In case of the LG42 SD panel >

Step 2-1

- Connect the LVDS cable to the digital board of the panel.
  * Loc. No. P1 (Digital board)

Step 3

- Locate and fix the main board.

< In case of the LG42 HD panel >

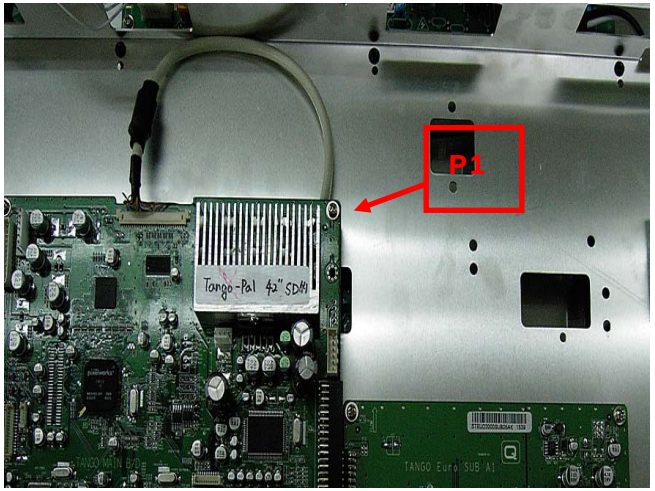
Step 2-2

- Connect the LVDS cable to the digital board of the panel.
  * Loc. No. P201 (Digital board)

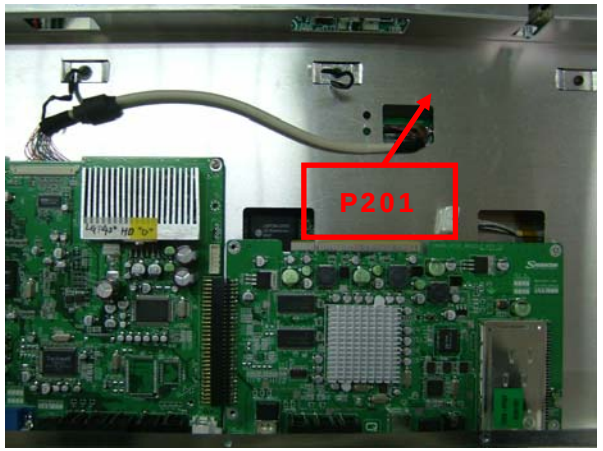
Step 3

- Locate and fix the main board.
  1. Use the Screw No.6
  2. Use the Screw No.12

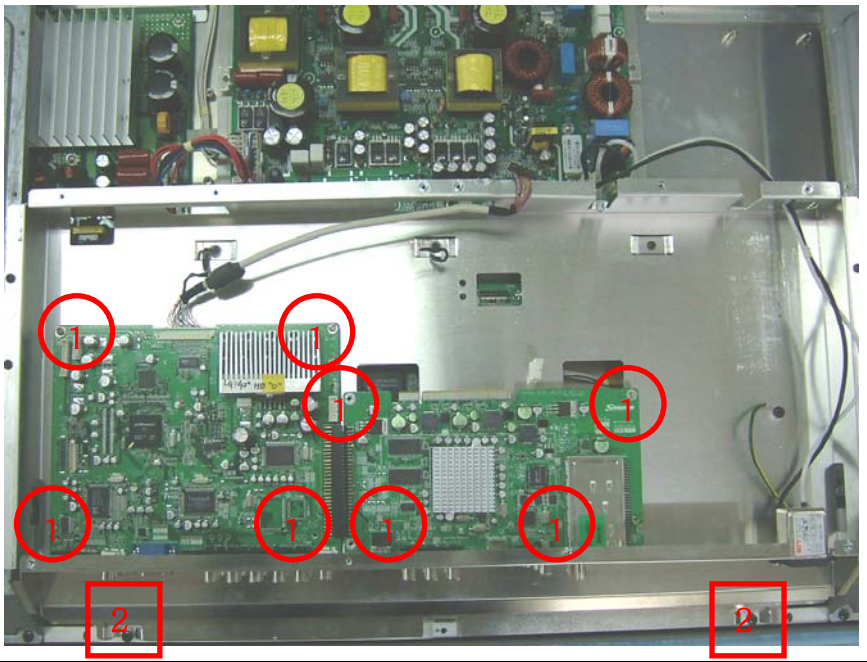
Step 2-1. In case of the LG42 SD panel



Step 2-2. In case of the LG42 HD panel



Step 3



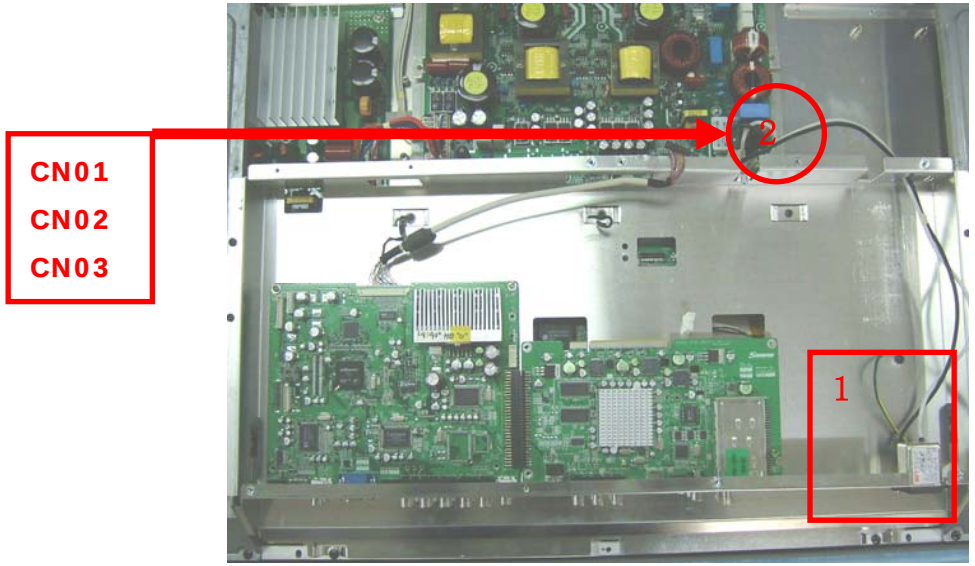
3-1-2-12. Connecting the noise filter cable and the power 2P jumper cable.

1) Connect the noise filter cable.

* Loc. No. CN01 (Power board)
* Noise filter cable Part Name : DD42NF02451

2) **In case of the LG42 HD panel,** connect the power 2P jumper cable.

* Loc. No. CN02 (Power board) ←→ Loc. No. CN03 (Power board)
* Power 2P jumper cable Part Name : DD-42KK-JMP/



3-1-2-13. Connecting the power cables to the power board.

1) Connect the power 4P←→4P cable .

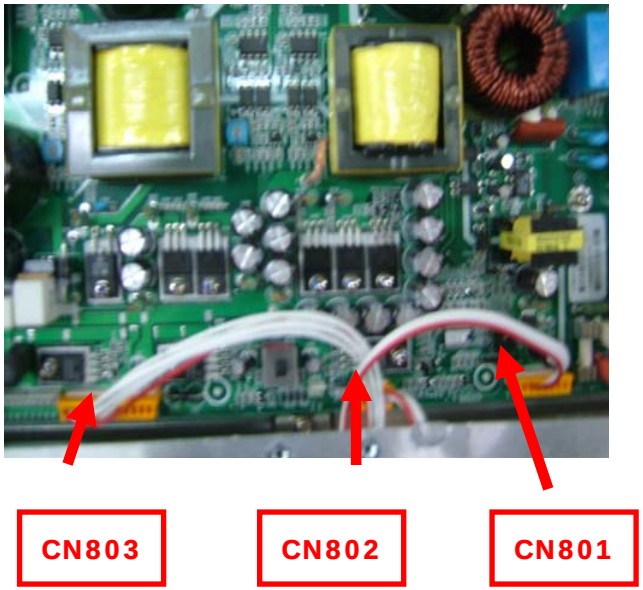
* Loc. No. CN802 (Power board) ←→ Loc. No. CON31 (Main board)
* Power 4P cable Part Name : DD42NR04401

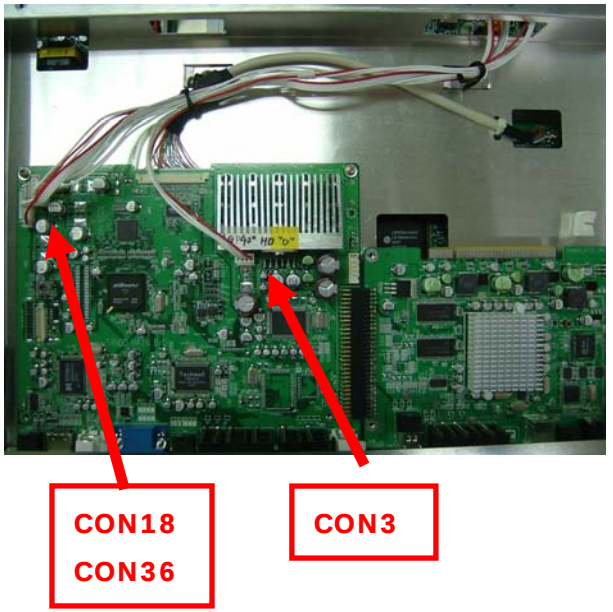
2) Connect the power 7P<--→12P cable.

* Loc. No. CN801 (Power board) ←→ Loc. No. CON18 (Main board)
* Power 7P cable Part Name : DD42NR07501

3) Connect the power 12P<--→7P cable.

* Loc. No. CN803 (Power board) ←→ Loc. No. CON36 (Main board)
* Power 12P cable Part Name : DD42NR12501





3-1-2-14. Assemblage of Key/LED/IR Board

Step 1

Connect the key_led_ir cable(14P:DD42CO14601) to main board.

Loc. CON25 (Main board)

Step 2~3

Assemble Key Knob & Key Board

Use the screw No.13

Step 4 ~5

Connect the key_led_ir cable to Key Board

Loc. CON25 (Main board) ←→ Loc. WO2(KEY board: 8P)

* after assemble Key cable than assemble Key Ass'y.

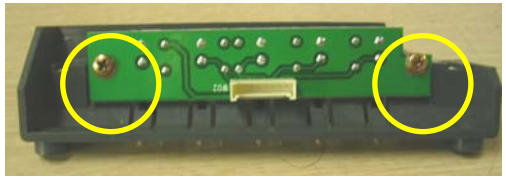
Step 6

Connect the key_led_ir cable to Led_Ir Board

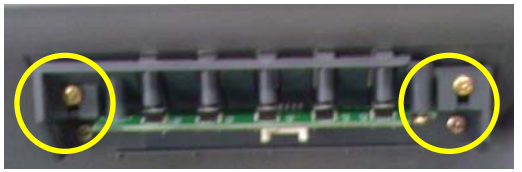
Loc. CON25 (Main board) ←→ Loc. WO1(LED_IR board: 6P)

Step 1

Step 2



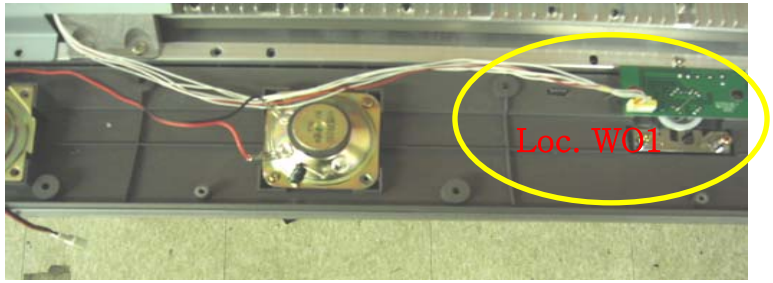
Step 3



Step 4

Step5

Step6



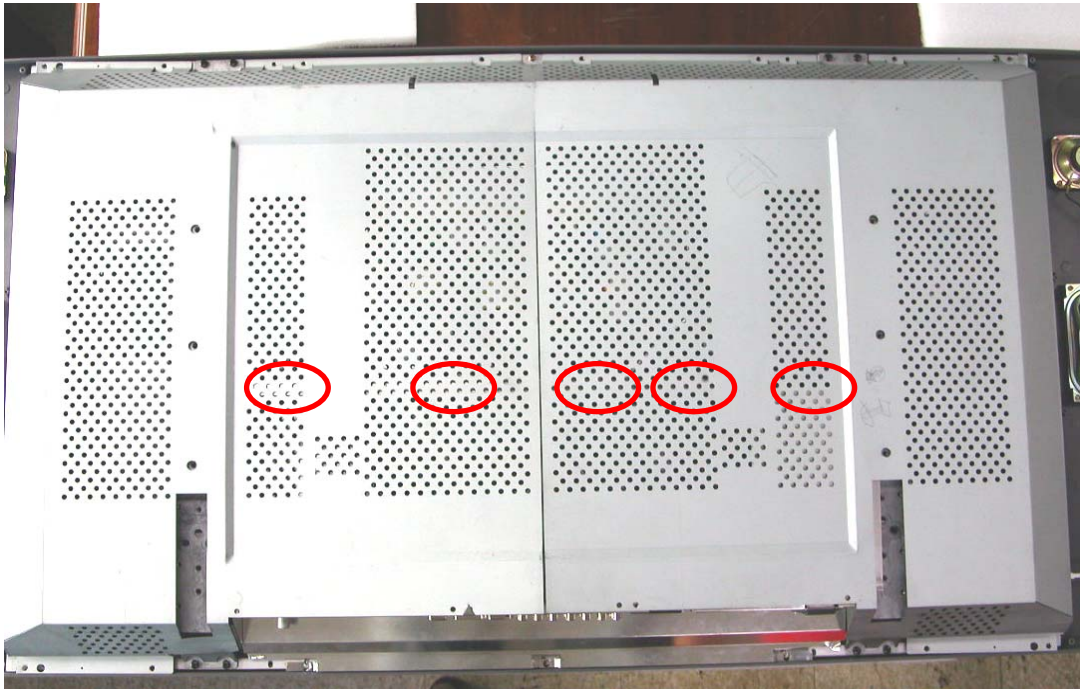
3-1-2-19. DPB-4260 Assemblage of rear Shield

Step1

Locating and fixing rear shield

- Use Screw No.6

Step 1



3-1-2-20. DPB-4260 Assemblage of rear Shield

Step2

Locating and fixing rear shield

- Use Screw No.5

Step3

Locating and fixing rear shield

- Use Screw No.5

Step4

Locating and fixing rear shield

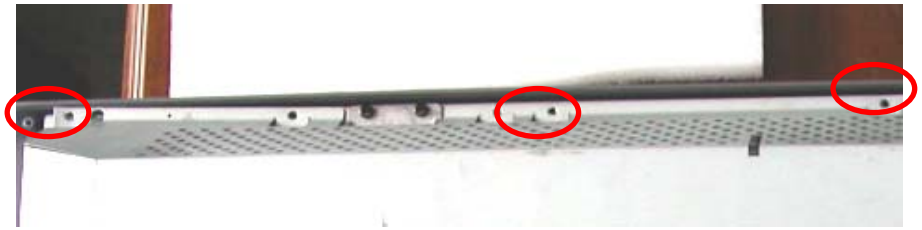
- Use Screw No.5

Step5

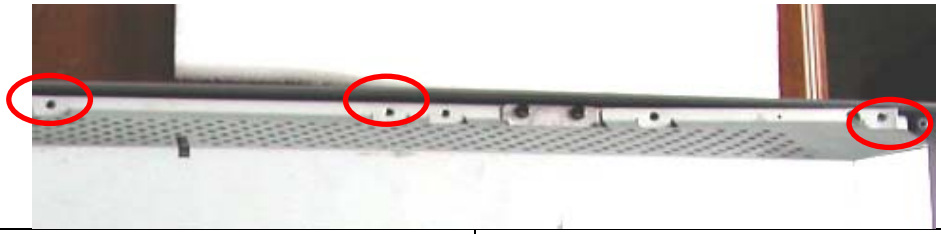
Locating and fixing rear shield

- Use Screw No.5

Step 2-left top



Step 3 - right top



Step 4- left & left bottom

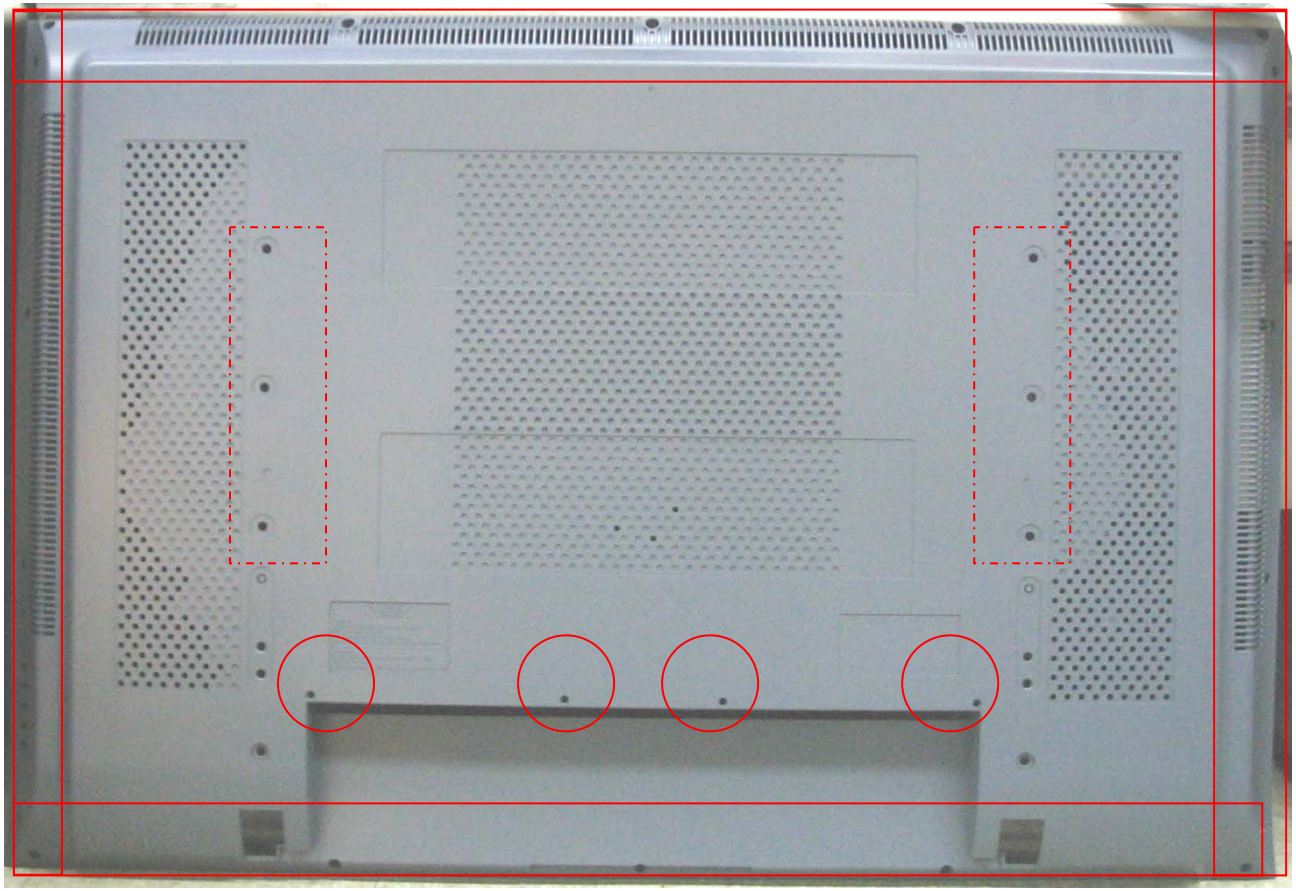
Step 5- right & right bottom

3-1-2-21. DPB-4260 Assemblage of Rear Cover

Step1

- Use Screw No.7
- Use Screw No.15
- Use screw No.4

Step1



3-2. Part Name

3-2-1. Screw Part Name

NO.	IMAGE	SORT	NAME / SPEC
NO.1		MACHINE SCREW + PAN HEAD	P+4*6 (4*6=diameter*length)
NO.2		TOP TITE + PAN HEAD	T/T-BP+3*6
NO.3		MACHINE SCREW + WASHER + PAN HEAD	WP+4*8 BLACK
NO.4		MACHINE SCREW + WASHER + PAN HEAD	WP+3*6 BLACK
N0.5		TOP TITE + PAN HEAD	T/T-BP+4*8
N0.6		MACHINE SCREW + PLAIN WASHER + SPRING WASHER	SW/PW BP+3*8
N0.7		MACHINE SCREW + PLAIN WASHER + SPRING WASHER	SW/PW BP+5*12

N0.8		MACHINE SCREW + PAN HEAD	BP+4*6
N0.9		MACHINE SCREW + PAN HEAD + EXTERNAL TEETH WASHER	T/T CT BB+4*10
N0.10		HEXA NUT	HEXA NUT
N0.11		HEXA NUT	HEXA NUT 15mm
N0.12		TOP TITE + PAN HEAD	T/T-BP+4*12
N0.13		TOP TITE + PAN HEAD	T/T-BP+3*8
N0.14		TOP TITE + PAN HEAD	T/T-BP+3*6
N0.15		TOP TITE + PAN HEAD	T/T-BP+4*10

3-2-2. Cable List

No.	PART NAME	PIN	Q`ty	CONNECTION	Remarks
1	DD42NF02451		1	CN01 (POWER B/D)	NOISE FILTER
2	DD-42KK-JMP/	2P	1	CN02 (POWER B/D) ←---→ CN03 (POWER B/D)	POWER B/D
3	DD42NR04401	4P	1	CN802(POWER B/D) ←---→ CON31 (MAIN B/D)	
4	DD42NR07501	7P	1	CN801 (POWER B/D) ←---→ CON18 (MAIN B/D)	
5.	DD42NR12501	12P	1	CN803 (POWER B/D) ←---→ CON36 (MAIN B/D)	
6	DD42CO31301	31P	1	CON16 (MAIN B/D) ←---→ P1 or P201 (DIGITAL B/D)	MAIN B/D
7	DD42CO14601	14P	1	CON25 (MAIN B/D) ←---→ WO1, WO2(KEY_LED_IR B/D)	KEY_LED_IR B/D
8	DD4CO06701	4P	1	CON15 ←---→ Speaker	BUIL-IN SPEAKER